

## Abstract

[Research Title]

## Study on responses to compound risks of climate change

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[Abstract]

We are now directly and indirectly exposed to risks due to the impacts of climate change as well as of climate change mitigation and adaptation measures. Such risks have come to be called “compound risks of climate change”. In Japan, research on impacts of climate change such as typhoons and flooding and physical damages due to the impacts has progressed, but research on compound risks has not been undertaken. Therefore, the aim of this study is to examine compound risks of climate change that are particularly important to Japan, and to give recommendations to Japanese stakeholders to minimize these risks. We dealt with two types of risks; transition risks due to mitigation measures, and physical risks due to climate change impacts, and considered comprehensive risk management measures. Subthemes are constructed to each of three levels; corporate, Asian, and international levels. We were able to produce unique research results for each subtheme. Combining these research results, we have the following three recommendations for Japanese stakeholders.

First, there is a need to spread awareness of the role of private business sector, financial sector in particular. Until now, in Japan, it has been thought that energy-intensive industries were the ones to take measures to combat climate change. Meanwhile, financial sides’ responsibility for investing in or lending to these industries is recognized overseas. Understanding is progressing among Japanese large companies, but it is not widespread among other domestic companies. Second, sufficient consideration must be given to climate change -related risks in development investment in Asian region. The Japanese government and companies are making a lot of investments and loans to the Asian countries. In addition, we have deep relationships in the supply chain, such as sourcing parts from countries in Asia. However, the region is becoming more susceptible to damages from climate change such as hurricanes. Furthermore, with the rapid growth in industrial production, efforts toward decarbonization need to be promoted. Therefore, it is important for the Japanese government and companies to be involved in ways that reduce transition and physical risks throughout the region. Third, as a result of international climate change risks, the increase in climate refugees has become an urgent issue. Although it is almost unknown in Japan, it is already a serious issue in other countries. Japan, as a leader in Asian region, should play a role in leading regional discussion regarding acceptance of, and support for, these refugees.

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